DM-RMC-4K-100-C

4K DigitalMedia 8G+® Receiver & Room Controller 100

- *DigitalMedia 8G+® receiver and display controller*
- *Connects to a DM® switcher or transmitter over a single CAT type twisted pair cable[1]*
- *HDBaseT® Certified — Enables direct connection to other HDBaseT certified equipment*
- *Provides one HDMI® or DVI display output[2]*
- *Handles video resolutions up to 4K and Ultra HD*
- *Handles 3D video and Deep Color*
- *Handles Dolby® TrueHD, DTS-HD®, and uncompressed 7.1 linear PCM audio*
- *HDCP 2.2 compliant*
- *Supports cable lengths up to 330 ft (100 m) for all resolutions up to UHD and 4K using DM Ultra cable[1]*
- *Supports cable lengths up to 330 ft (100 m) for 1080p, WUXGA, and 2K using DM 8G® cable or CAT5e[1]*
- *Supports cable lengths up to 230 ft (70 m) for UHD and 4K using DM 8G cable, or 165 ft (50 m) using CAT5e[1]*
- *Provides a 10/100 Ethernet LAN connection*
- *Enables device control via CEC, IR, RS-232, and Ethernet*
- *Compatible with Crestron® USB over Ethernet Extenders[4]*
- *Allows quick, easy setup and diagnostics*
- *Low-profile surface mount design*
- *Powered via the DM connection or local power pack (included) [3]*

The DM-RMC-4K-100-C provides a simple one-box interface solution for a single display device as part of a complete Crestron® DigitalMedia™ system. It functions as a DM 8G+® receiver and control interface, providing a single HDMI® output along with Ethernet, RS-232, and IR control ports. In addition to DM 8G+, it is also compatible with HDBaseT®, allowing it to be connected directly to an HDBaseT certified source. Its compact, low-profile design allows the DM-RMC-4K-100-C to be installed discreetly behind a flat panel display or above a ceiling mounted projector. It connects to the head end or source location using a single CAT type twisted pair cable.[1]

4K Ultra HD

Crestron DigitalMedia continues to advance the standard for digital AV signal distribution, delivering the world's first end-to-end 4K system solution. The DM-RMC-4K-100-C features the latest DM 8G+ technology, providing support for the transport of 4K and Ultra HD video signals. Support for 4K video also ensures support for the latest generation of computers and monitors with native resolutions beyond 1080p and WUXGA.

DigitalMedia 8G+®

As the leader in HDMI and control system technologies, Crestron developed DigitalMedia (DM®) to deliver the first complete HD AV distribution system to take HDMI to a higher level. DigitalMedia allows virtually any mix of HDMI and other AV sources to be distributed throughout a home, office, school, or virtually any other facility. The latest generation of DM is called DigitalMedia 8G™ (DM 8G®). Engineered for ultra high-bandwidth and ultimate scalability, DM 8G provides a true one-wire lossless transport for moving high-definition video, audio, Ethernet, and control signals over a choice of low-cost twisted pair or fiber optic cable.

DM 8G over twisted pair copper wire is called DigitalMedia 8G+ (DM 8G+). DM 8G+ handles uncompressed Full HD 1080p, Ultra HD, 2K, and 4K video signals with support for 3D, Deep Color, and HDCP 2.2. Audio capabilities include support for high-bitrate 7.1 audio formats like Dolby® TrueHD and DTS-HD Master Audio™ as well as uncompressed linear PCM. All signals are transported over a single CAT type cable, supporting 1080p, WUXGA, and 2K signals at distances up to 330 feet (100 m) using Crestron DM Ultra or DM 8G Cable, or third-party CAT5e. Higher resolutions up to UHD and 4K are supported at distances up to 330 feet (100 m) using DM Ultra Cable, 230 feet (70 m) using DM 8G Cable, or 165 feet (50 m) using CAT5e.[1]

HDBaseT® Certified

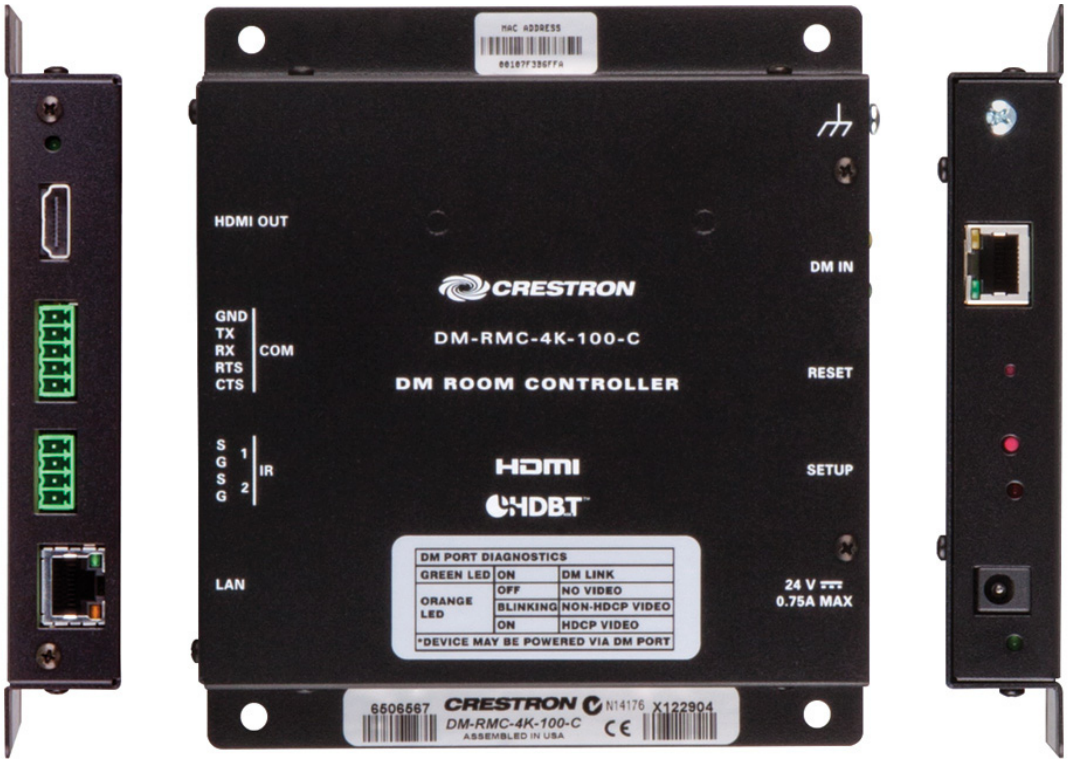
Crestron DigitalMedia 8G+ technology is designed using HDBaseT Alliance specifications, ensuring interoperability with other HDBaseT certified products. Via its DM 8G+ input, the DM-RMC-4K-100-C can be connected directly to an HDBaseT compliant source without requiring a DM transmitter.

Multimedia Display Interface

A single HDMI digital AV output port is provided on the DM-RMC-4K-100-C for connection to a display or other device. The HDMI output can also handle DVI signals using an appropriate adapter or interface cable[2].

A single CAT type cable connects the DM-RMC-4K-100-C to a DM switcher or transmitter, or to an HDBaseT source, transporting video, audio, control, networking, and power signals all through one simple RJ45 connection.[1,3] Multiple DM-RMC-4K-100-Cs may be installed to handle each display in a multiroom distribution system, all fed from a central DM-MD series switcher. Or, a single DM-RMC-4K-100-C can be fed straight from a DM 8G+ or HDBaseT transmitter, affording a simple solution for extending a computer or AV signal to a single display.

DM-RMC-4K-100-C 4K DigitalMedia 8G+® Receiver & Room Controller 100



DM-RMC-4K-100-C – Left, Front, and Right Side Views

LAN Connectivity

Along with high-definition AV and control, DigitalMedia also integrates high-speed Ethernet networking for a total signal distribution solution. The DM-RMC-4K-100-C includes a 10/100 Ethernet port, providing a convenient LAN connection for a local network device.

Embedded Device Control

The primary objective of every Crestron system is to enable precisely the control desired for a seamless user experience. The DM-RMC-4K-100-C includes built-in RS-232, IR, and Ethernet control ports to allow programmable control of the display device connected to it. But, it can also provide an alternative to such conventional control methods by harnessing the CEC (Consumer Electronics Control) signal embedded in HDMI. Through its connection to the control system, the DM-RMC-4K-100-C provides a gateway for controlling the display device right through the HDMI connection, potentially eliminating the need for any dedicated control wires or IR emitters.

USB Signal Extension (optional)

DigitalMedia allows for the routing of USB signals alongside video and audio. USB signal extension is enabled on the DM-RMC-4K-100-C by adding a USB-EXT-DM USB over Ethernet Extender Module[4].

Low-Profile Installation

The DM-RMC-4K-100-C mounts conveniently to a wall, ceiling, or other flat surface. At just one inch deep, it fits easily behind a flat panel display or above a ceiling-mounted projector. The unit can be powered using the wall mount power pack (included), or via PoDM (Power over DigitalMedia) for a true one-wire solution[3]. All connections and LED indicators are positioned on the sides, ensuring optimal access and visibility for a clean, serviceable installation. An array of indicators is provided for easy setup and troubleshooting.

Please refer to the DigitalMedia Resources Webpage at http://www.crestron.com/dmresources/ *for additional design tools and reference documents.*

SPECIFICATIONS

Maximum Cable Lengths

Cable Type: / Resolution:	DM-CBL-ULTRA DM® Ultra Cable	DM-CBL-8G DM 8G® Cable	CAT5e (or better) UTP or STP[1]
1080p60 Full HD	330 ft (100 m)	330 ft (100 m)	330 ft (100 m)
1920x1200 WUXGA			
1600x1200 UXGA			
2048x1080 2K DCI			
2560x1440 WQHD		230 ft (70 m)	165 ft (50 m)
2560x1600 WQXGA			
3840x2160 Ultra HD			
4096x2160 4K DCI			

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Video

Input Signal Types: DM 8G+® & HDBaseT® w/Deep Color, 3D, & 4K
Output Signal Types: HDMI® w/Deep Color, 3D, & 4K (DVI compatible [2])

Maximum Resolutions:

Scan Type	Maximum Resolution	Frame Rate	Color Sampling
Progressive	4096x2160 4K DCI	Up to 24 Hz	4:4:4
Progressive	3840x2160 Ultra HD	Up to 30 Hz	4:4:4
Progressive	2560x1600 WQXGA	Up to 60 Hz	4:4:4
Progressive	4096x2160 4K DCI	Up to 60 Hz	4:2:0 [5]
Progressive	3840x2160 Ultra HD	Up to 60 Hz	4:2:0 [5]
Interlaced	1920x1080 1080i30	Up to 30 Hz	4:4:4

NOTE: Common resolutions are shown; other custom resolutions are supported at pixel clock rates up to 300 MHz

Audio

Input Signal Types: DM 8G+, HDBaseT
Output Signal Type: HDMI
Formats: Dolby Digital®, Dolby Digital EX, Dolby Digital Plus, Dolby® TrueHD, DTS®, DTS-ES, DTS 96/24, DTS-HD High Res, DTS-HD Master Audio™, LPCM up to 8 channels

Communications

Ethernet: 10/100 Mbps, auto-switching, auto-negotiating, auto-discovery, full/half duplex, DHCP
RS-232: 2-way device control and monitoring up to 115.2k baud with hardware and software handshaking
IR/Serial: 1-way device control via infrared up to 1.1 MHz or serial TTL/RS-232 (0-5 Volts) up to 19.2k baud
DigitalMedia: DM 8G+, HDCP 2.2, EDID, CEC, PoDM, Ethernet
HDBaseT: HDCP 2.2, EDID, PoH, Ethernet
HDMI: HDCP 2.2, EDID, CEC

NOTE: Supports management of HDCP and EDID; supports management of CEC between the connected HDMI device and a control system

Connectors

HDMI OUT: (1) 19-pin Type A HDMI female;
HDMI digital video/audio output;
Also supports DVI[2]

COM: (1) 5-pin 3.5mm detachable terminal block;
Bidirectional RS-232 port;
Up to 115.2k baud, hardware and software handshaking support

IR 1 – 2: (1) 4-pin 3.5mm detachable terminal block;
Comprises (2) IR/Serial ports;
IR output up to 1.1 MHz;
1-way serial TTL/RS-232 (0-5 Volts) up to 19200 baud

LAN: (1) 8-wire RJ45 female, shielded;
10Base-T/100Base-TX Ethernet port

Ground: (1) 6-32 screw, chassis ground lug

DM IN: (1) 8-pin RJ45 female, shielded;
DM 8G+ input, HDBaseT compliant;
PoDM and PoH PD (Powered Device) port[3];
Connects to the DM 8G+ output of a DM switcher, transmitter, or other DM device, or to an HDBaseT device, via CAT5e, Crestron DM-CBL-8G, or Crestron DM-CBL-ULTRA cable [1]

24VDC 0.75A MAX: (1) 2.1 x 5.5 mm DC power connector;
24 Volt DC power input;
PW-2407WU power pack included

Controls & Indicators

HDMI OUT: (1) green LED, indicates video signal presence at the HDMI output
LAN: (2) LEDs, green LED indicates Ethernet link status, amber LED indicates Ethernet activity
DM IN: (2) LEDs, green LED indicates DM link status, amber LED indicates video and HDCP signal presence
RESET: (1) miniature recessed pushbutton, for hardware reset
SETUP: (1) red LED and (1) miniature recessed pushbutton, for Ethernet setup
24VDC: (1) green LED, indicates operating power supplied via PoDM, PoH, or local power pack

Power Requirements

Power Pack: 0.75 Amps @ 24 Volts DC;
100-240 Volts AC, 50/60 Hz power pack, model PW-2407WU included

Power over DM (PoDM): PoDM PD (Powered Device), capable of being powered by a PoDM PSE (Power Sourcing Equipment), conforms to IEEE 802.3af (802.3at Type 1) Class 3 (12.95W)[6]

Power over HDBaseT (PoH): PoH PD (Powered Device), capable of being powered by a PoH PSE (Power Sourcing Equipment), conforms to IEEE 802.3af (802.3at Type 1) Class 3 (12.95W)[6]

Note: May be powered via power pack or PoDM/PoH, not both.

Environmental

Temperature: 32° to 104°F (0° to 40°C)
Humidity: 10% to 90% RH (non-condensing)
Heat Dissipation: 29 BTU/Hr

Enclosure

Chassis: Metal, black finish, with (2) integral mounting flanges, vented top and bottom
Mounting: Freestanding, surface mount, or attach to a single rack rail

Dimensions

Height: 6.09 in (155 mm)
Width: 5.68 in (145 mm)
Depth: 1.02 in (26 mm)

Weight

16.5 oz (468 g)

MODELS & ACCESSORIES

Available Models

DM-RMC-4K-100-C: 4K DigitalMedia 8G+® Receiver & Room Controller 100

Included Accessories

PW-2407WU: Wall Mount Power Pack 24VDC, 0.75A, Universal (Qty. 1 included)

Available Accessories

DM-CBL-ULTRA-NP: DigitalMedia™ Ultra Cable, Non-Plenum Type CMR
DM-CBL-ULTRA-P: DigitalMedia™ Ultra Cable, Plenum Type CMP
DM-CBL-ULTRA-LSZH: DigitalMedia™ Ultra Cable, Low Smoke Zero Halogen
DM-CONN: Connector for DM-CBL-ULTRA
DM-CBL-8G-NP: DigitalMedia 8G™ Cable, non-plenum
DM-CBL-8G-P: DigitalMedia 8G™ Cable, plenum
DM-8G-CONN: Connector for DM-CBL-8G
DM-8G-CRIMP: Crimping Tool for DM-8G-CONN
DM-8G-CONN-WG: Connector with Wire Guide for DM-CBL-8G
DM-8G-CRIMP-WG: Crimping Tool for DM-8G-CONN-WG
CBL Series: Crestron® Certified Interface Cables
MP-WP Series: Media Presentation Wall Plates
MPI-WP Series: Media Presentation Wall Plates - International Version
CNSP-XX: Custom Serial Interface Cable
IRP2: IR Emitter Probe w/Terminal Block Connector
USB-EXT-DM: USB over Ethernet Extender with Routing

Notes:

1. The maximum cable length for DigitalMedia 8G+ (DM 8G+) or HDBaseT is dependent upon the type of cable and resolution of the video signal. Refer to the “Maximum Cable Lengths” table for a detailed overview. Crestron legacy cable models DM-CBL DigitalMedia Cable and DM-CBL-D DigitalMedia D Cable support the same resolutions and cable lengths as CAT5e. Shielded cable and connectors are recommended to safeguard against unpredictable environmental electrical noise which may impact performance at resolutions above 1080p. Refer to the Crestron DigitalMedia Design Guide, Doc. #4546 for complete system design guidelines. DM 8G+ is compatible with HDBaseT Alliance specifications for connecting to HDBaseT compliant equipment. All wire and cables are sold separately.
2. The HDMI output requires an appropriate adapter or interface cable to accommodate a DVI signal. CBL-HD-DVI interface cables are available separately.
3. Receiving Power over DM (PoDM) or Power over HDBaseT (PoH) requires connection to a switcher or other equipment that has a PoDM or PoH PSE (Power Sourcing Equipment) port. Any wiring that is connected to a PoDM or PoH PSE port is for intra-building use only and should not be connected to a line that runs outside of the building in which the PSE is located.
4. USB-EXT-DM USB over Ethernet Extender Modules are sold separately. Refer to the USB-EXT-DM spec sheet for more information.
5. Support for 4K and UHD at 50/60 Hz with 4:2:0 color sampling will be enabled through a future firmware update.
6. References to the IEEE 802.3af and 802.3at standards are used to demonstrate that PoDM and PoH technology is similar in function to PoE and follows the same essential specifications. The DM-RMC-4K-100-C cannot be powered over Ethernet, and its DM IN port should not be connected directly to an Ethernet network or device.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

The specific patents that cover Crestron products are listed online at: patents.crestron.com.

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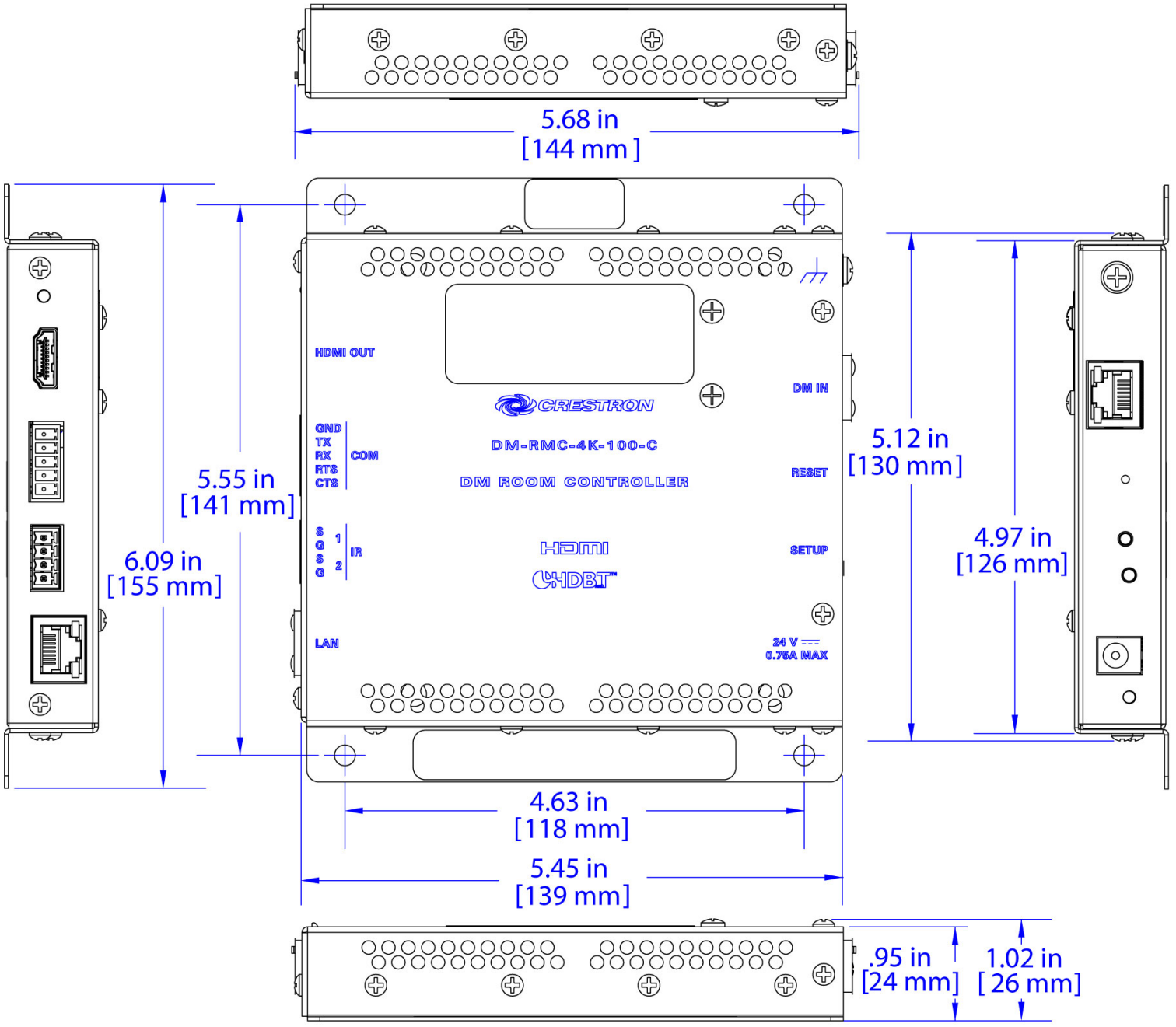

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